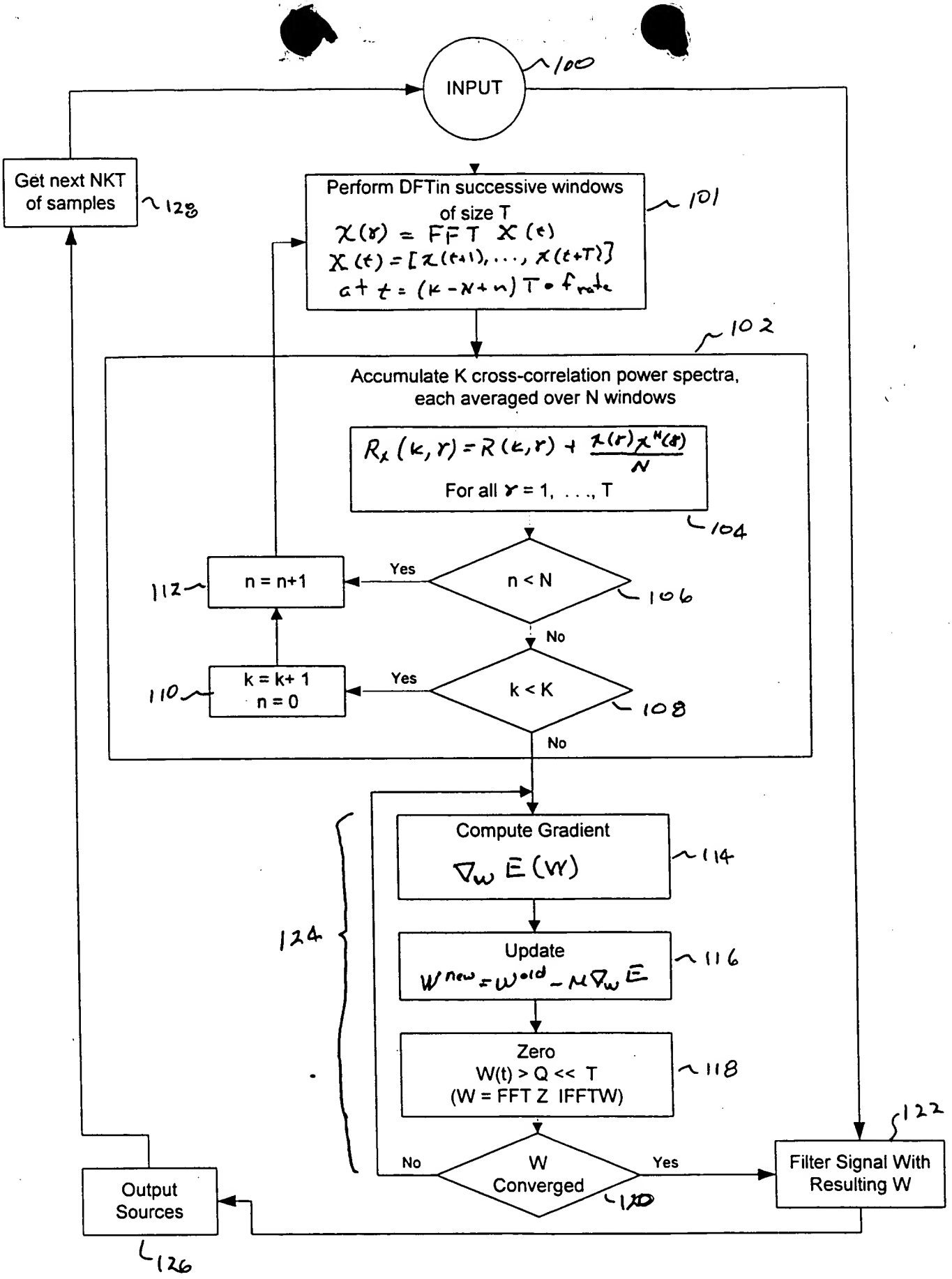
INPUT
100
Get next NKT of samples
128
Perform DFTin successive windows of size T
$X(\gamma) = FFT\ X(t)$
$X(t) = [x(t+1), \ldots, x(t+T)]$
$at\ t = (k-N+n)\,T \cdot f_{rate}$
101
102
Accumulate K cross-correlation power spectra, each averaged over N windows
$R_x(k,\gamma) = R(k,\gamma) + \frac{x(\gamma)x^N(\delta)}{N}$
For all $\gamma = 1, \ldots, T$
104
n < N
Yes
106
n = n+1
112
No
k < K
Yes
108
k = k+ 1
n = 0
110
No
Compute Gradient
$\nabla_w E(W)$
114
Update
$W^{new} = W^{old} - \mu \nabla_w E$
116
Zero
W(t) > Q << T
(W = FFT Z IFFTW)
118
124
W Converged
No
Yes
120
Filter Signal With Resulting W
122
Output Sources
126

FIGURE 1

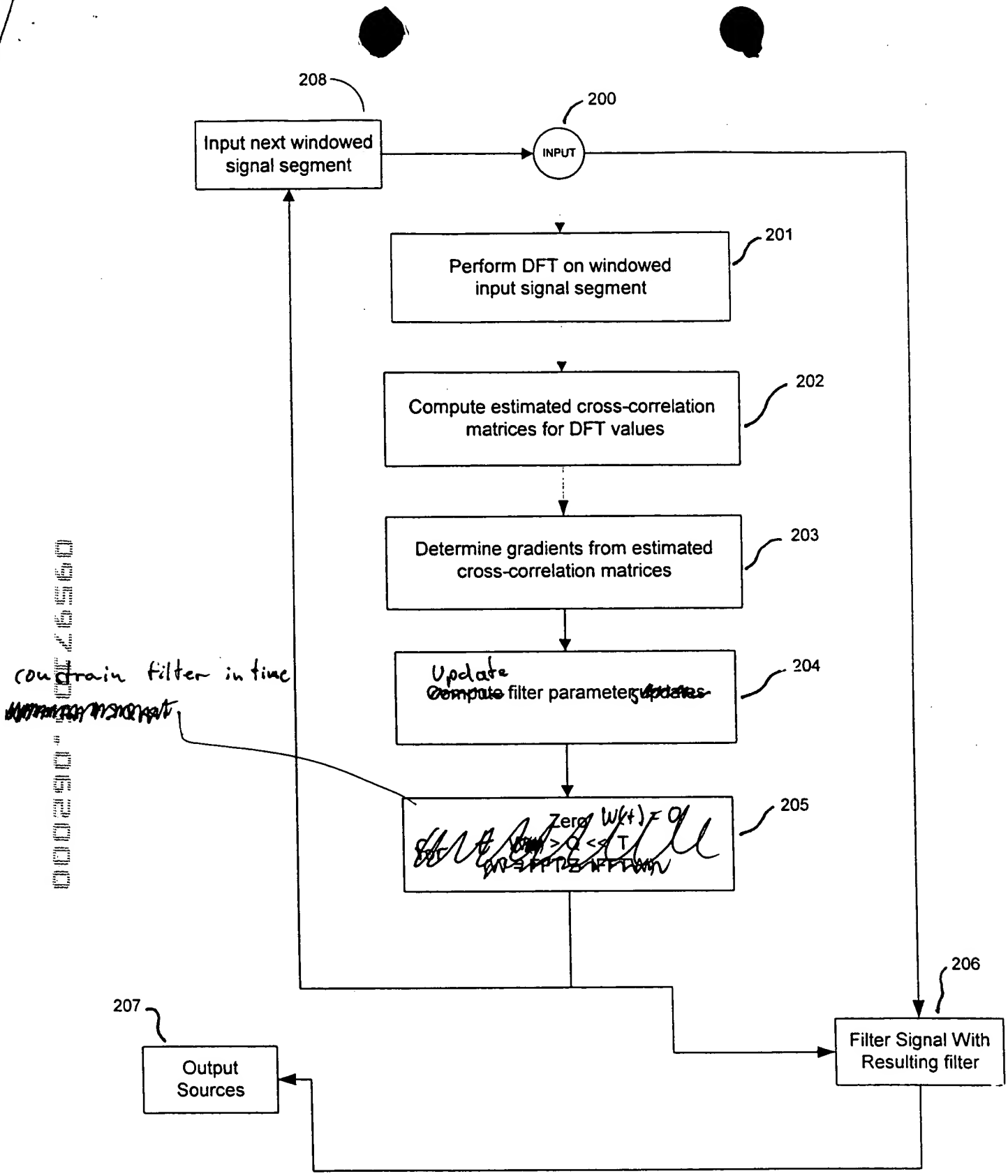
208
Input next windowed signal segment
200
INPUT
Perform DFT on windowed input signal segment
201
Compute estimated cross-correlation matrices for DFT values
202
Determine gradients from estimated cross-correlation matrices
203
Update filter parameters
204
205
206
Filter Signal With Resulting filter
207
Output Sources

FIGURE 2

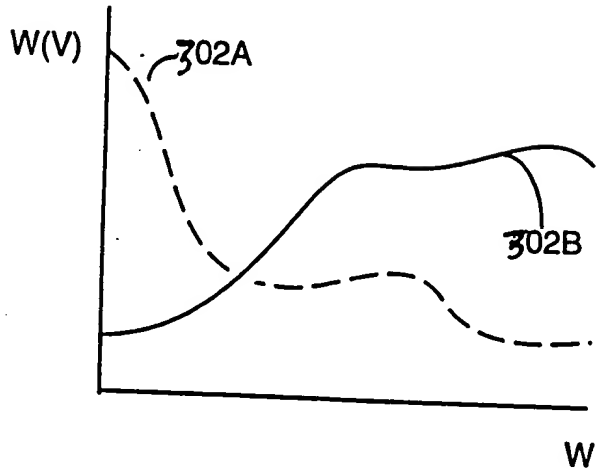

FIG. 3

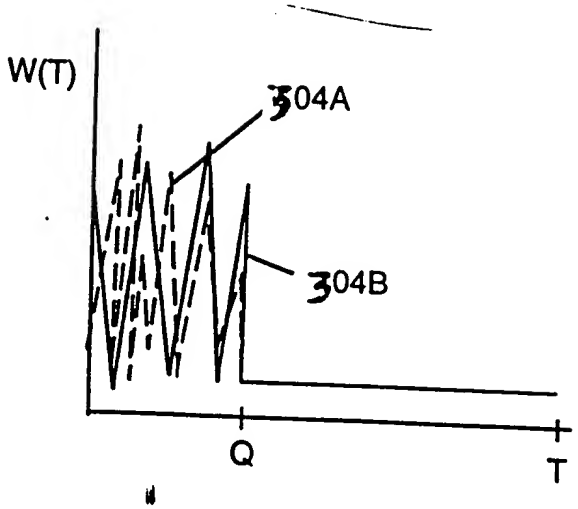

FIG. 4

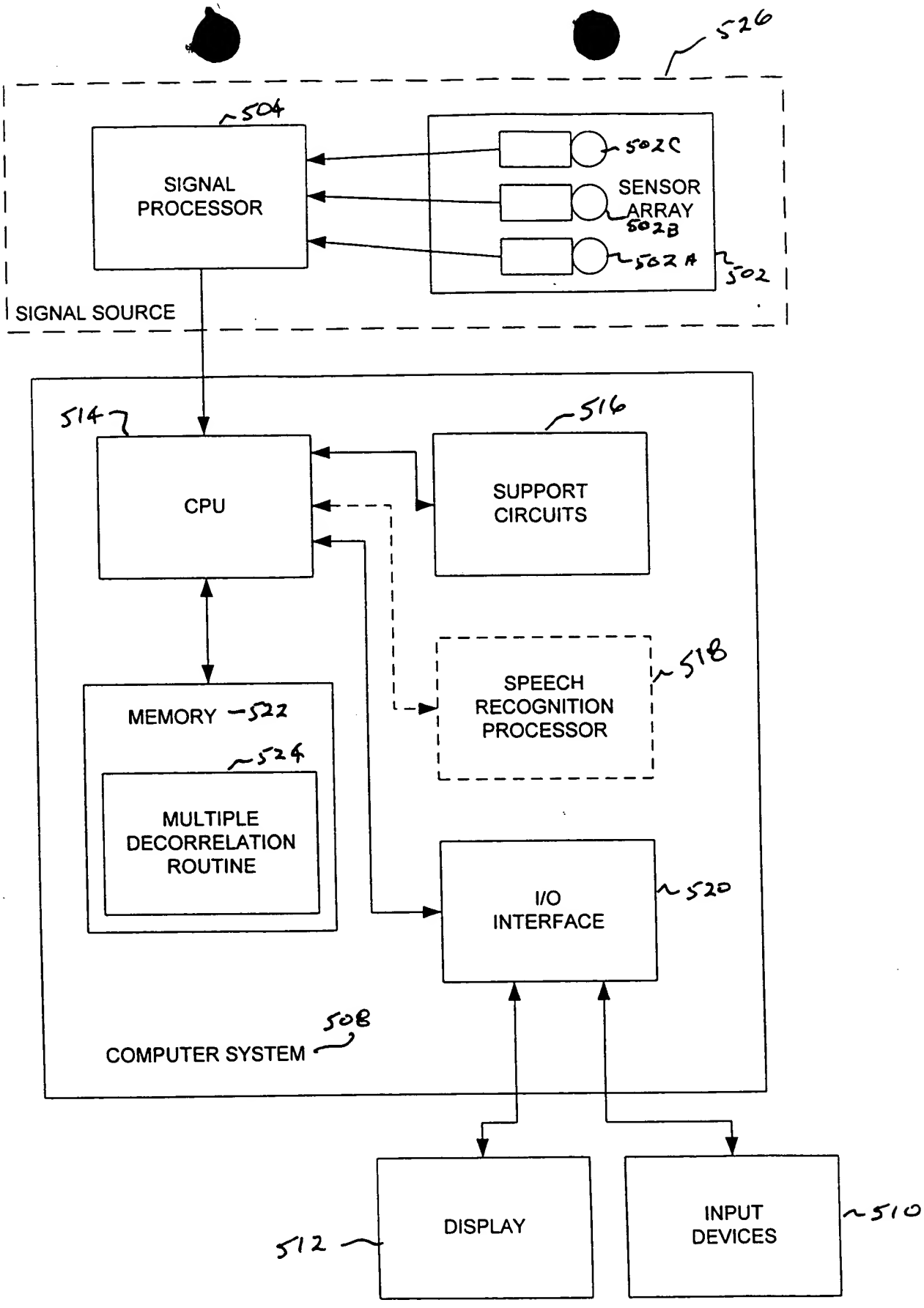
526
504
SIGNAL PROCESSOR
502C
SENSOR ARRAY
502B
502A
502
SIGNAL SOURCE
514
516
CPU
SUPPORT CIRCUITS
518
SPEECH RECOGNITION PROCESSOR
MEMORY 522
524
MULTIPLE DECORRELATION ROUTINE
520
I/O INTERFACE
508
COMPUTER SYSTEM
512
DISPLAY
INPUT DEVICES
510

FIGURE 5